

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An electrostatic discharge protection device is located between a pad and an internal circuit, and is coupled between a first power wire and a second power wire ~~to a first level signal and a second level signal~~, comprising:

~~a device for detecting the voltage level of the first level signal, wherein when the voltage level of the first level signal reaches a first predetermined value, the voltage detecting device outputs a detecting result signal;~~

~~a signal converting device for outputting the second level signal when the detected result signal is received;~~

a switching circuit for outputting an enable signal when receiving a detecting result signal;

a driving circuit coupled to the switching circuit for outputting a ground level signal when receiving the enable signal;

a voltage detecting device including at least one serial diode connected between the first power wire and the switching circuit, and outputting the detecting ~~the~~ result signal when a voltage level of the first power wire reaches a first predetermined voltage level;

a first switch coupled to a connection point between the pad and the internal circuit, wherein the first switch includes a first controlling gate connected to the second power wire and is turned

on when a voltage level of the pad reaches a second predetermined voltage level ~~has a first controlling gate and turns on when the voltage level of the pad reaches a second predetermined voltage level;~~

a second switch coupled to the connection point between the pad and the internal circuit, wherein the second switch includes a second controlling gate connected to the first power wire and is turned on when the voltage level of the pad reaches a third predetermined voltage level lower than the second predetermined voltage level ~~has a second controlling gate and turns on and raises the voltage value of the first level signal when the voltage level of the pad reaches a third predetermined voltage level; and~~

a third switch coupled to the connection point between the pad and the internal circuit, wherein the third switch includes a third controlling gate connected to the driving circuit and is turned on when the voltage level of the pad reaches the second predetermined voltage level and the third controlling gate receives the ground level signal ~~has a third controlling gate and turns on when the voltage level of the pad reaches the second predetermined voltage level and the third controlling gate receives the second level signal.~~

2. (Original) The electrostatic discharge protection device as claimed in claim 1, wherein the first switch and the third switch are NMOS transistors.

3. (Original) The electrostatic discharge protection device as claimed in claim 2, wherein the second switch is a PMOS transistor.

4-5. (Cancelled)

6. (Currently Amended) The electrostatic discharge protection device as claimed in claim ~~5~~1, wherein the first ~~level-signal-power~~wire provides ~~is~~ a power source signal.

7. (Currently Amended) The electrostatic discharge protection device as claimed in claim ~~6~~1, wherein the voltage level of the second ~~level-signal-power wire~~ is ground level.

8. (Original) The electrostatic discharge protection device as claimed in claim 7, wherein the second predetermined voltage level is a break down voltage of the NMOS transistor.

9. (Original) The electrostatic discharge protection device as claimed in claim 8, wherein the third predetermined voltage level

is a voltage difference to make the PMOS transistor generate leakage current.

10. (Currently Amended) The electrostatic discharge protection device as claimed in claim 51, wherein the first controlling gate, the second controlling gate, and the third controlling gate are gates of ~~a~~-MOS transistors.

11. (Currently Amended) An electrostatic discharge protection device located between a pad and an internal circuit, and is coupled to a first power wire level signal, a second power wire level signal, and a third power wire level signal, comprising:

~~a voltage detecting device for detecting the voltage level of the third level signal, wherein when the voltage level of the third level signal reaches a first predetermined value, the voltage detecting device outputs a detecting result signal;~~

~~a switching circuit coupled to the voltage detecting device, the switching circuit outputs a ground level enable signal when receiving the detecting result signal;~~

~~a driving circuit coupled to the switching circuit and the voltage detecting device for generating the third level signal, wherein the driving circuit outputs the second level signal when receiving the ground level enable signal;~~

a switching circuit for outputting an enable signal when receiving a detecting result signal;

a driving circuit coupled to the switching circuit and the third power wire for outputting a ground level signal when receiving the enable signal;

a voltage detecting device including at least one serial diode connected between the third power wire and the switching circuit, and outputting the detecting result signal when a voltage level of the third power wire reaches a first predetermined voltage level;

a first switch coupled to a connection point between the pad and the internal circuit, wherein the first switch includes a first controlling gate connected to the second power wire and is turned on when a voltage level of the pad reaches a second predetermined voltage level ~~has a first controlling gate and turns on when the voltage level of the pad reaches a second predetermined voltage level;~~

a second switch coupled to the connection point between the pad and the internal circuit, wherein the second switch includes a second controlling gate connected to the first power wire and is turned on when the voltage level of the pad reaches a third predetermined voltage level lower than the second predetermined voltage level ~~has a second controlling gate and turns on and raises~~

~~the voltage value of the first level signal when the voltage level of the pad reaches a third predetermined voltage level; and~~

a third switch coupled to the connection point between the pad and the internal circuit, wherein the third switch includes a third controlling gate connected to the driving circuit and is turned on when the voltage level of the pad reaches the second predetermined voltage level and the third controlling gate receives the ground level signal ~~has a third controlling gate and turns on when the voltage level of the pad reaches the second predetermined voltage level and the third controlling gate receives the second level signal.~~

12. (Original) The electrostatic discharge protection device as claimed in claim 11, wherein the first switch and the third switch are NMOS transistors.

13. (Original) The electrostatic discharge protection device as claimed in claim 12, wherein the second switch is a PMOS transistor.

14. (Cancelled)

15. (Currently Amended) The electrostatic discharge protection device as claimed in claim ~~14~~11, wherein the first ~~level signal~~ power wire provides is a first power source signal.

16. (Currently Amended) The electrostatic discharge protection device as claimed in claim ~~15~~11, wherein the voltage level of the ^[N] second level signal power wire is ground level.
A

17. (Original) The electrostatic discharge protection device as claimed in claim 16, wherein the second predetermined voltage level is a break down voltage of the NMOS transistor.

18. (Original) The electrostatic discharge protection device as claimed in claim 17, wherein the third predetermined voltage level is a voltage difference to make the PMOS transistor generate leakage current.

19. (Currently Amended) The electrostatic discharge protection device as claimed in claim 18, wherein the first controlling gate, the second controlling gate, and the third controlling gate are gates of a-MOS transistors.

20 (New) The electrostatic discharge protection device as claimed in claim 11, wherein the voltage level of the third power wire is transformed ~~from~~^{to} the voltage level of the first power wire.